

IN THE CLAIMS:

Please **CANCEL** claims 4 and 5 without prejudice or disclaimer, **AMEND** claims 1, 4, 6, 7, and 16, and **ADD** claims 17-25, as follows:

1. (CURRENTLY AMENDED) A method of recording data on an optical recording medium, the method comprising:

generating channel modulated digital data;

generating a recording waveform having an erase pattern containing a multi-pulse of pulses having corresponding low and high powers, and a recording pattern in response to the channel modulated digital data; and

forming a first level of the channel modulated digital data as a mark and forming a second level of the channel modulated digital data as a space by using the generated recording waveform,

wherein the generating of the recording waveform comprises causing a power level of a trailing pulse of the erase pulse to be the high level of the multi-pulse and a power level of a leading pulse of the erase pattern to be the low level or the high level.

2. (ORIGINAL) The method of claim 1, wherein the generating of the channel modulated digital data comprises:

performing a Run Length Limited (RLL)(2, 10) method.

3. (ORIGINAL) The method of claim 1, wherein the generating of the channel modulated digital data comprises:

performing a Run Length Limited RLL(1, 7) method.

4-5. (CANCELLED)

6. (CURRENTLY AMENDED) ~~The method of claim 1~~ A method of recording data on an optical recording medium, the method comprising:

generating channel modulated digital data;

generating a recording waveform having an erase pattern containing a multi-pulse of pulses having corresponding low and high powers, and a recording pattern in response to the channel modulated digital data; and

forming a first level of the channel modulated digital data as a mark and forming a second level of the channel modulated digital data as a space by using the generated recording waveform,

wherein:

the generating of the recording waveform comprises: causing ~~the a~~-power level of ~~the a~~-leading pulse of the erase pattern to be ~~the a~~-low level of the multi-pulse and ~~the a~~-power level of a trailing pulse to be ~~a~~-the low level of the multi-pulse, and

the low level is greater than a cooling level of the recording and/or erase pattern.

7. (CURRENTLY AMENDED) A method of recording data on an optical recording medium, the method comprising:

generating channel modulated digital data;

generating a recording waveform having an erase pattern containing a multi-pulse and a recording pattern in response to the channel modulated digital data; and

forming a first level of the channel modulated digital data as a mark and forming a second level of the channel modulated digital data as a space by using the generated recording waveform~~The method of claim 1, wherein the generating of the recording waveform comprises:~~

~~causing a power level of a leading pulse of the erase pattern to be a high~~same level of the multi-pulse ~~and as~~ a power level of a trailing pulse ~~to be a low level of the multi-pulse and is above a cooling level of the recording and/or erase pattern.~~

8. (ORIGINAL) The method of claim 1, wherein the generating of the recording waveform comprises:

causing a ratio of a duration time of a high level and another duration time of a low level of the multi-pulse to be substantially 1:1.

9. (ORIGINAL) The method of claim 8, wherein the generating of the recording waveform comprises:

causing the duration time of the high level to be half a clock cycle.

10. (ORIGINAL) The method of claim 8, wherein the generating of the recording waveform comprises:

causing the ratio of the duration time of the high level and the duration time of the low level of the multi-pulse to be m:n where m and n are integers.

11. (ORIGINAL) The method of claim 1, wherein the generating of the channel modulated digital signal comprises:

forming a first level of an NRZI data signal as the mark and a second level of the NRZI data signal as the space.

12. (ORIGINAL) The method of claim 11, wherein the generating of the recording waveform comprises:

forming a cooling pulse as a part of the erase pattern.

13. (ORIGINAL) The method of claim 12, wherein the generating of the recording waveform comprises:

upon determining whether an ending time of the cooling pulse is less than or greater than $0.5T_s$ from a trailing edge of the NRZI data signal, causing a duration time of a leading pulse forming the erase pattern to be over $0.5T_s$.

14. (ORIGINAL) The method of claim 13, wherein the generating of the recording waveform comprises:

forming a unit pulse of the multi-pulse to have a high level and a low level that are adjusted by the duration time of a leading pulse forming the recording pattern.

15. (ORIGINAL) The method of claim 1, wherein the generating of the recording waveform comprises:

forming the recording pattern having at least two power levels.

16. (CURRENTLY AMENDED) A ~~The method of claim 1~~ recording data on an information storage medium, the method comprising:, wherein the ~~generating channel modulated digital data;~~ generating a recording waveform ~~further comprises generating comprising a recording pattern, an erase pattern having a multi-pulse, and a cooling pulse concatenating the recording and erase patterns, in response to the channel modulated digital data,~~ the cooling pulse having a power level below the low level; ~~and forming a first level of the channel modulated digital data as a mark and forming a second level of the channel modulated digital data as a space by using the generated recording waveform.~~

17. (NEW) The method of claim 1, wherein:
the recording pattern contains another multi-pulse adjacent to the erase pattern, and
the generating the recording waveform further comprises adjusting a first pulse of the
another multi-pulse according to a property of the trailing pulse.
18. (NEW) The method of claim 17, wherein the power of the leading pulse of the erase
pattern is equal to the power of the first one of the multi-pulses of the recording pattern.
19. (NEW) The method of claim 17, wherein the power of the leading pulse of the erase
pattern is other than the power of the first one of the multi-pulses of the recording pattern.
20. (NEW) The method of claim 17, wherein the multi-pulse of the recording pattern
further comprises a recording pulse having a recording power greater than the power of the first
one of the pulses of the recording pattern.
21. (NEW) The method of claim 17, wherein the recording pattern further comprises a
cooling pulse concatenating the recording and erase patterns and having a cooling power less
than the power of the first pulse of the recording pattern and the low level of the erase pattern.
22. (NEW) The method of claim 1, wherein the generating of the recording waveform
further comprises forming the recording pattern using a multi-pulse, a first one of the multi-
pulses of the recording pattern having a power that is greater than or equal to a power of leading
pulse of the erase pattern.
23. (NEW) The method of claim 22, wherein the power level of the leading pulse of the
erase pattern is equal to the power of the first one of the multi-pulses of the recording pattern.
24. (NEW) The method of claim 22, wherein the power level of the trailing pulse of the
multi-pulses of the erase pattern is greater than the power of the first one of the multi-pulses of
the recording pattern.

25. (NEW) The method of claim 22, wherein the generating of the recording waveform further comprises forming a cooling pulse concatenating the recording and erase patterns and having a cooling power less than the power of the first pulse of the recording pattern and the low power of the erase pattern.